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LETTER TO THE EDITOR

ALOANTIBODIES ABO IN PATIENTS WITH ASCARIASIS

Immunization in the ABO system may be produced by heteroimmunization (through substances of animal origin or from bacterial origin), or by aloimmunization (pregnancy or transfusions).

Immuneantibodies have many properties, among which we may mention the following: 1) They are generally IgG; 2) They are haemolytic; 3) Their highest degree of activity is reached at 37 °C; 4) They may disappear a few weeks or months after immunization.

With respect to probable associations between blood groups and the presence of parasites, information is contradictory[1,2,4,7]. HUNTLEY *et al.*[5] have associated the presence of immune antibodies in the ABO system in children with infection caused by helminths in their mother. We would like to comment on our experience in detecting the presence of immune antibodies of ABO system in children who were infected by *Ascaris lumbricoides*. Since immune antibodies tend to disappear as the antigenic stimulus decreases, the quantitative determination of this kind of antibodies would allow the evaluation of the treatment efficacy.

Four patients with ABO haemolytic antibodies were selected. Their sera were used within 12 hours after extraction. Sera were titrated at different temperatures (37 °C, 20° C and 4° C), following the conventional methodology[6].

Titre, score and sensitivity parameter (SP) were determined for each serum at the temperatures indicated before. Determination of these parameters were carried out with the geometrical series of serum dilution of ratio 2 as proposed. Results of titrations were expressed by means of the score determined by GOUDEMAND & MARSALET[3], according to the following scale:

score 10 (+ + + +) : 1 to 3 big agglutinates
5 (+ + +) : more than 10 small agglutinates
2 (+ +) : 3 to 10 small agglutinates
1 (+) : traces
0 (-) : no agglutination

The total score was calculated as ΣS_i were
S_i: is the score corresponding to the D_i dilution
The Sensitivity Parameter (SP) was defined by VALVERDE DE RASIA & RASIA[8] as:
$SP = \Sigma (S_i / D_i) 10^{-3}$ (i = 1,2,3....)
$D_i = 2^{-i}$ is the considered dilution (inverse to titre)

SP is a useful value to compare quantitatively the capability of two or more techniques to detect differences between agglutinations.

Results of the experience are shown on Table 1:

TABLE 1

	TITRE			SCORE			**SP**		
TEMPERATURE / **PATIENT**	4 °C	20 °C	37 °C	4 °C	20 °C	37 °C	4 °C	20 °C	37 °C
1 (Age: 5 years)	128	256	256	45	47	64	0.63	0.69	1.14
2 (Age: 32 months)	128	256	256	53	59	67	0.72	0.98	1.30
3 (Age: 34 months)	64	64	128	35	31	56	0.50	0.19	0.75
4 (Age: 16 months)	8	8	16	3	3	8	0.016	0.016	0.052

SP has proved its usefulness since it remarks the increase of agglutinating capability of a serum at 37 °C. Both, their capability and their haemolytic activity are characteristics of ABO system immune antibodies.

Apparently our results support the association *Ascaris lumbricoides* infection with the ABO hemolytic disease. The proposed technique is easy to carry out and may be useful in the prognosis and control of this illness.

Bioq. Patricia PONCE DE LEON
Dra. Juana VALVERDE
Dra. María ZDERO
Departamento de Microbiología
Facultad de Cs. Bioq. y Farm.
Suipacha 531
2000 Rosario - Argentina.

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